# Electronics Reuse and Recycling Manual

prepared for *Goodwill of Southwest Florida*
and applicable for use by non-profit
institutions throughout Florida

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Prepared by Charlotte County Government

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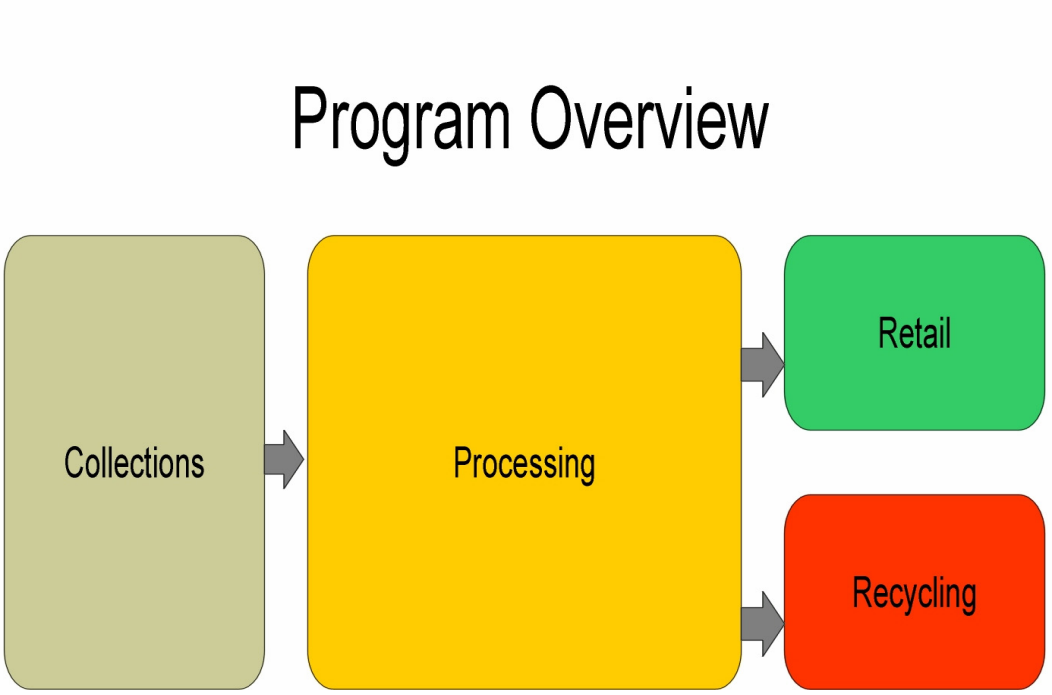
# 1.0 Overview & Position Descriptions

This manual is both an overview of the Goodwill Electronics Recycling Program as implemented in the Charlotte County Electronics Reuse and Recycling Innovative Grant project, and a procedural guide for the training of equipment triage and processing.

It is intended to be used to train new processing employees, but it also includes descriptions for collection and retail positions and responsibilities. It is general enough to be a useful management reference and specific enough to be used as a guide for setting up new programs.

The electronics recycling program can be divided into four parts, as depicted in the diagram "Program Overview" below.




Collections, Processing, Recycling and Retail.

## 1.1 Collections

Donations are collected from households, businesses, and institutions. Equipment donations are commonly dropped off at a Goodwill stores, but may be collected from either regular or special events. Special pickups from a business or institution location may be arranged by calling the program manager. A fee is typically assessed for special pickups.

Positions: *Attendant*

- Responsible for donation collection & customer relations.
- Works at the donation trailer or store receiving area, depending on location.
- Completes donation slips, accepts recycling fee or hands out the recycling fee donation flyer.
- Moves the equipment inside for tech to sort and accept the slip.

*Driver*

- Drives the truck to pick up equipment from businesses, institutions, special collection events, and other Goodwill stores.
- When at Businesses or Institutions hands out the recycling fee donation flyer, fills out Donation Slip.

## 1.2 Processing

Processing includes sorting, triage, testing and repair.

Positions: *Sorter*

- Separate computer equipment from TVs.
- Sort computers into complete systems as best as possible.
- Deliver electronics to staging area for diagnostic work by a technician.
- May perform certain diagnostics, depending on skill and program need.

*Technician*

- Responsible for any testing, repair or disassembly of equipment.
- Enters incoming equipment information into the *Data Record Sheet*.
- Coordinates the palletizing of all equipment destined for recycling and fills out the *Pallet Sheet*.

When processing volume is low, these positions may be filled by one person.

## 1.3 Recycling

Donations that cannot be resold or traded must be properly recycled.

Positions: *There is no recycling position*.

- The processing technician is responsible for recording and palletizing all equipment destined for recycling. The sorter may assist with staging palletized equipment for collection by the recycling vendor.

## 1.4 Retail

The economic success of the program depends on the resale of computers and televisions.

Positions: *Computer Retail Staff*

- Maintains computer system display area.
- Provides customer support.
- Answers questions and promotes sales.

*Television Retail Staff*

- Maintains television display area.
- Provides customer support.
- Keeps video feed running to provide great aesthetic.

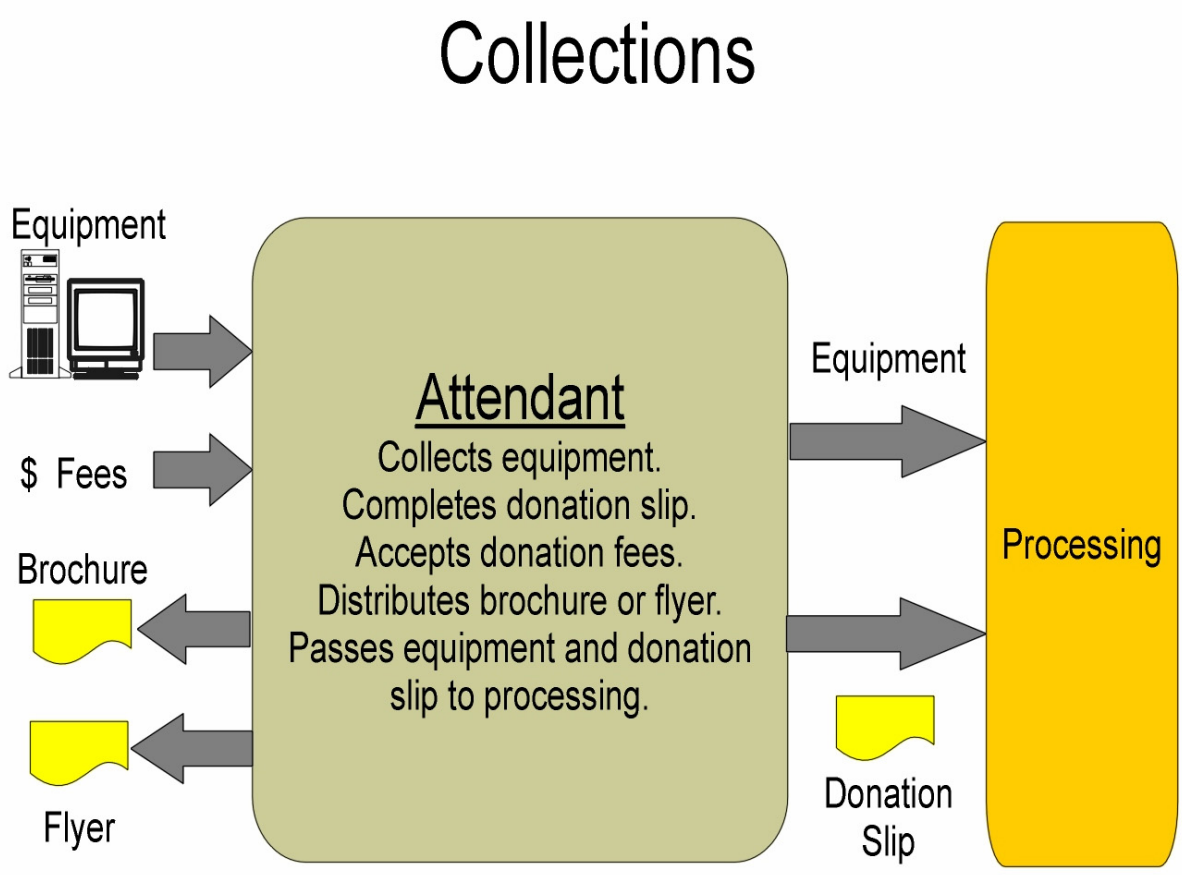
All retail employees should be crossed trained for each position to back each other up.

## 1.5 Management

- *Program level management*
  - Responsible for implementing overall program strategy, maintaining program quality and sustainability, and acting as liaison to the community – including the management of any special collection arrangements (e.g. community recycling events).
- *Store level management*
  - Supervisor of the retail, collections and processing staff.
  - Ensures material needs of the program and good working conditions. Arranges for recycling collection.
  - Arranges for special pickups.
- *Processing leader*
  - A technician with process management responsibilities such as record keeping, quality control and personnel management. In small operations this may be performed by a technician with oversight by store level management.

# 2.0 Collections

Donations are usually collected 3 ways: store collection, contracted pickups, special event collection. Collection attendants have two important program responsibilities: customer relations and fee collection. Attendants must be trained to treat donors with respect and offer clear options for proper handling of their used electronics.




## 2.1 Documents

- Donation Slip
- Household Brochure
- Institutional Brochure
- Mail-Back Flyer
- Certificate of Reuse, Recycling or Destruction
- Donor Survey

## 2.2 Acceptance Point (could be trailer, store dock, etc.)

At the trailer or loading dock, the attendant accepts equipment donations and completes the *Donation Slip* with help from the donor.

All monitor or TV donations must be accompanied by a **$5 processing fee**. All donors are offered *Household or Institutional Brochures* explaining the program and the fee. For those who won't pay the fee, they **are** allowed to leave the monitors or TVs, if they accept a *Mail-Back Flyer* that may later be returned by mail with the fee.

Finally, the attendant delivers the donated equipment to a receiving bin in the processing area and passes the completed *Donation Slip* to the sorter or processing technician.

Special deliveries from county, business or other institutions may require that a *Certificate of Reuse, Recycling or Destruction* be delivered by the program as a legal guarantee of proper disposal.

## 2.3 Store to Store

The Goodwill store driver making regular rounds between the stores will check for computer donations before leaving each store. On a space available basis, the driver will bring the donated equipment to the processing facility at the program store.

When necessary, the electronics program driver (who may be the same driver as above) may be asked to make special store transfers. For example, a high volume donation at one of the stores may be redirected to the processing store.

## 2.4 Contracted Pickups

Some donors (especially business donors) will not deliver equipment to the store and so collection services can be offered. Collection programs tend to increase the quantity and quality of donations. A donor pays a fee to make arrangements for a program driver to go to their site to pick up donated equipment. The fee should be large enough to cover all costs of the pick up, plus item fees such as monitor charges. A good place to start is a $40 minimum flat fee, with incremental costs for large quantities collected or large distances traveled.

## 2.5 Collection Events

Periodically, perhaps every three or four months, well-advertised special collection events may be held in different parts of the county. This way, used equipment donors from different areas will occasionally have a more convenient way to donate their used equipment compared with drop-off. Event locations should be highly visible and easy for

residents and businesses to visit. Events may be held in conjunction with county organized events.

Advertising should include press releases to generate articles of interest to the community, small ads in local papers, magazines and community newsletters, and phone calls or mailings to businesses and other institutions. Also consider public service announcements on radio and television. The demographics and habits of the community should be taken into account when planning such events.

A collection should have at least one large trailer or other storage unit on site. There should be two attendants on site to assist donors and handle the electronics. As a suggestion to help report information to the State, Attendant can ask donors to complete a *Donor Survey* form. The survey helps with assessing the impact of the collection and may provide information valuable for setting up future collection events. Typically, copies of the survey are required to be mailed to the state following the collection event.

Collection events are used to increase donations of electronics from under-serviced areas of the county. These events are held in areas that are more convenient than donating at an established retail store location.

Keys to a successful event:

1. Thorough preparation and planning.
2. Convenient and highly visible location.
3. Varied and timely advertising placed before and up to the day of the event.
4. Adequate storage and staff.
5. Surveys for feedback valuable for planning future events.

# 3.0 Processing

The processing of electronics equipment is the most complex and labor intensive part of the program. However, it represents the value-added element which allows the program operator to capture value from donated equipment.

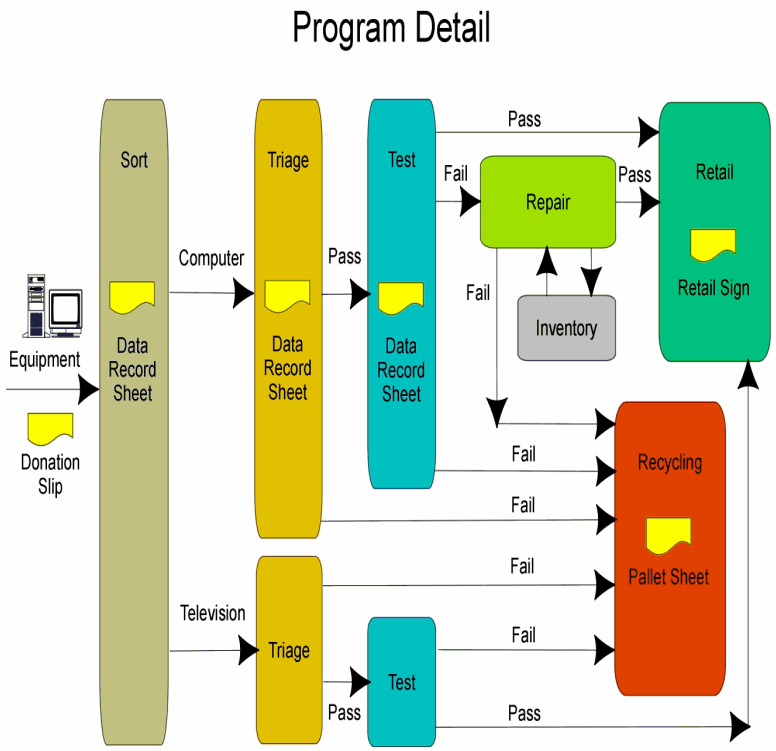



Figure 3.0 Processing includes sorting, triage, testing and repair.

## 3.1 Documents

Data Record Sheet
Donation Slip
Key to Data Record Sheet

## 3.2 Work Areas

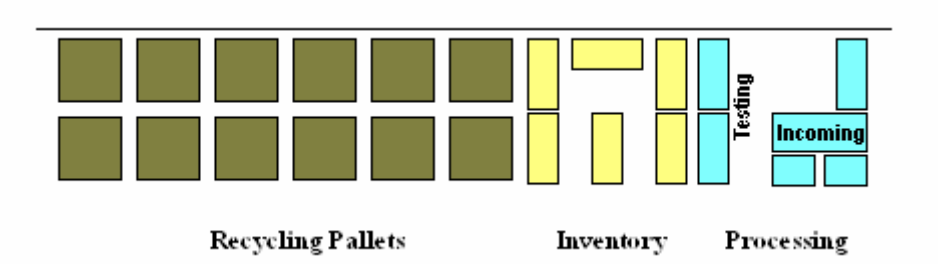



Figure 3.1 Work areas along the warehouse wall at the Englewood Goodwill.

### Work Area Layout

Figure 3.1 depicts the floor configuration for processing work at the Goodwill store in Englewood. This layout is based on the real world constraints of setting up operations in a retail store. The elongated shape of the work area allows for easy equipment movement past the electronics processing area to other operations along the back wall.

The work area layout includes three main areas:
1. Processing
2. Inventory
3. Recycling Pallet Storage

Activities performed in each area are described below.

### 1. Processing

Equipment List:
- Standard electronics toolkit for testing, repair, disassembly.
- Compressed air (canned or compressor driven) for cleaning dust, etc.
- Testing PC system with CDROM, modem & printer.
- Internet connection for downloading software.
- File cabinet for documents and small tools.

This area consists of large bins for temporary holding of electronics equipment and low shelves used as a testing bench and for storage of parts and tools commonly used for testing, repair and disassembly. This area also includes a desk and file cabinet for office work.

Holding bin at front of processing area at the Englewood facility.

### a. *Incoming Holding Bins*

All electronics equipment and computers coming into Goodwill must be placed in holding bins at the front of the processing area. The attendant or sorter deliver items to this spot either from the loading dock or from the collection area near the front of the store. At this station donations are examined and data for each entered into the *Data Record Sheet*.

Testing area with CPU box opened for testing.

### b. *Testing Benches*

This is where tests are performed on incoming monitors, TVs, and CPUs. The workspace here is also where system upgrades and repairs are done. Systems are delivered here by the sorter or attendant, processed by the

technician, and then sent to the pallets for shipping to a recycler, to the retail area for sale, or to inventory to await sale.

## 2. Inventory

Equipment List:

- Pen and pad of lined paper for written inventory records.
- Masking tape for labeling.
- Indelible marker for labeling.

This area consists of shelving and storage space for parts that are to be used later for completing or repairing systems. Complete systems ready for sale may be stored here temporarily while waiting for retail space to become available. Label each section of shelf indicating the type of equipment stored there. Always keep the shelves neat, and keep clear of anything except the designated equipment.

Inventory shelves full of equipment.

## 3. Recycling

Equipment List:

- Pallet truck for moving pallets.
- Pen and pad of lined paper for creating handwritten pallet sheets.
- Plastic shrink-wrap for wrapping around stacks of palletized equipment.
- Wrapping tool for controlling tubes of wrapping material during wrapping.

This area is primarily for holding pallets of equipment that will eventually be sent to outside recycling facilities. If there is room, this area may be used for storing extra

bins of equipment when there has been an unusually large donation and equipment processing is unable to keep up.

Recycling area at the rear of the Englewood processing facility.

## 3.2 Sorting

Most equipment is going to come into the facility via the receiving dock door on an individual basis. As it does so, each new piece of equipment will be placed by the collections attendant into a black receiving bin labeled 'computer equipment only'. The sorter receives a *Donation Slip* along with the equipment in the bin. The slip is then taped to the equipment for the technician to read at processing time.

Care and concern should be exercised at all times when handling electronics equipment. Mishandling during the sorting process is a common cause of damage to donated equipment.

The sorting process divides incoming parts into simple initial categories.

The sorter first separates televisions from all other computer equipment. Televisions are then separated into these categories:

- Small televisions (less than 19")
- Large televisions (19" or greater)

The sorter moves televisions from the receiving bin delivered by the attendant to processing holding bins for TVs only, putting large TVs and small TVs into separate bins.

Computer equipment is often brought in as a set of items together making up a computer system. Systems consist of at least a CPU box, monitor, keyboard and mouse, but may include peripherals such as printers, scanners, external drives, etc. The technician may identify missing items from a complete system and take parts from inventory to make them complete. System components should be kept together, along with whatever software and manuals may come with them. Ideally, the sorter delivers complete systems directly to the technician's workbench for triage and testing.

If equipment arrives in separate units (without a CPU box, or at least no compatible CPU box) then they are separated into these categories:

- Monitors = MT
- Large Peripherals = LP
  - Printer, scanner, external drive, fax, copier, etc.
- Small Peripherals = SP
  - Mice, keyboard, cable, speaker, microphone, joystick, etc.

The sorter moves monitors and large peripherals from the attendant's receiving bin to holding bins designed for each category. Small peripherals may be put into boxes instead for easier handling.

**Record Of Received Items**

A *Data Record Sheet* (DRS) is kept of all equipment arriving at the processing facility. The DRS was developed to manage information for reporting to the project's funding organization. Some data may not be required for managing an ongoing self-funded operation.

Columns:

| | |
|---|---|
| **Logged By** | Initials of technician filling out the Data Record Sheet. |
| **Date In** | Date item arrived at the processing facility. |
| **Source** | Private donation, institutional delivery or special collection. |
| **Category** | General equipment type: Monitor, CPU, large peripheral, etc. |
| **Brand** | Name of manufacturer: Dell, Sony, HP, etc. |
| **Description** | Specific type of equipment: P100, MS3, KB, FX, CP, ETC. |
| **Age** | Only if TV or monitor: estimated age in years. |
| **Condition** | Resell 'as is', repair and resell, or recycle. |
| **Status** | W = working, NW = nonworking |
| **Tracking** | Retail Tracking # (MMDDYYA) **or**<br>Pallet # (e.g. 2D) written on item and on retail sign. |

For allowed column values, see *Key to Data Record Sheet*.

## 3.3 Triage

Triage is decision making determined by internal or non-obvious information about the piece of equipment. An item is determined to be in one of three conditions:

1) resell 'as is'
2) repair and resell
3) recycle

The technician is responsible for triage and the following procedures.

### 3.31 CPU Triage

First determine if it is a PC or Mac. The following are examples of PC brands:

IBM, Dell, Gateway, Compaq, Hewlett Packard,
NEC, Acer, Packard Bell, Sony

If the system is called an Apple, PowerMac, iMac or something similar, or has a logo graphics similar to the one at the right then it is an Apple system. If it is an Apple system, it should be targeted for recycling and palletized.

If the system is a PC continue with CPU triage.

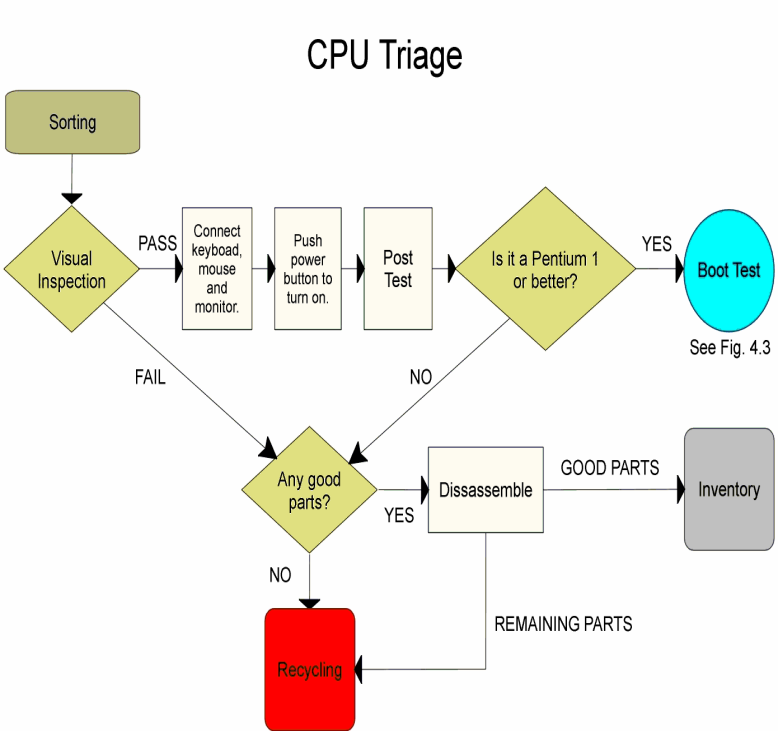



Figure 3.2

- To test a PC box, first give the equipment a visual inspection.
  - See if it has any 5.25" drives in it. If yes, the machine is too old. Target the whole thing for recycling.
  - Look for any damage to the outside case that might interfere or cause problems with normal operations of the machine.
  - If it fails visual inspection, there may still be valuable parts (i.e. hard drive, CDROM, or sound, video, or network cards, RAM chips) that may be removed and put into inventory.
- Next, connect all the major components (keyboard, mouse and monitor) to the CPU box.
- Push the power button to power up the PC. The first screen should show the chip type and speed.
- If a donated computer has at least a Pentium class processor of any speed, move on to the *Boot Check* test.
- If the system has less than a Pentium processor, look for valuable parts and remove them for inventory if there are any.

## 3.32 Monitor Triage

Monitors are the most potentially hazardous of all equipment – the screen has a large amount of lead and parts of the monitor may still hold a strong residual charge. If a monitor is broken open in any way, put it into a plastic bag, record its arrival and condition the *Data Record Sheet* and recycle it right away. Even if it seems to be in good

condition, great care must be exercised when handling it. Do not drop it! Monitors are never disassembled.

When deciding to keep or recycle a monitor several factors come into play. They can take the form of questions such as the following:

Is the monitor too old to even bother testing it? A monitor outlives its useful life after about 7-8 years.

- Look on the back of the monitor case for the date it was manufactured.
- If it is older than 7-8 years then it should be targeted for recycling.
- If it is not that old, and, it appears to be working, consider it a candidate for resale and put it into inventory, possibly to be included with a complete system.

Do you have an overabundance of this type of monitor?

- If the answer to this question is yes, then consider targeting it for recycling. If the answer is no then put it into inventory for several weeks, maybe even a month, to see if you are able to add it to a system that has a bad monitor when it comes into the facility.
- Overabundant or non-working monitors could be disposed of via third party parts dealers. They will often accept monitors not working, as they will use its parts or attempt to repair it.

## 3.33 Large Peripheral Triage

Printer

- If it is a dot matrix printer, recycle it.

Printer or Scanner

- If it has no cables, check for the proper cable in inventory. If none, recycle.
- If donated as part of a system, see if you have proper drivers already.
- If not, and an install disk is with it, you may need to install the software from the disk.
- If it is donated alone and there is no software with it, look for drivers online.
- No drivers available? Recycle.

FAX, Copier, or UPS (Uninterrupted Power Supply)

- If it has no power cable, check for the correct ones in inventory and recycle it if none are found.

## 3.34 Small Peripheral Triage

For small peripherals, there is no triage, only simple testing. See 'Small Peripheral Testing' below in section 3.4.

### 3.35 Television Triage

There are several visual checks used to determine whether to recycle a television or not. Store policy determines these criteria and may vary. The technician will not have to turn on the television to decide.

- If the TV is less than 14", it is too small to sell enough money. Recycle it.
- If the TV does not have a digital tuner, recycle it.
- If the TV has no coaxial cable connection in the back, recycle it.
- If it is not cleanable or has significant exterior damage, recycle it

## 3.4 Testing

Testing determines if a system is ready for retail, needs repair, disassembly, or ultimately needs recycling.

It is assumed that the technician has sufficient prior training and certification, or is trained by a certified lead or senior certified technician. Training should include becoming familiar with the terms and basic procedures described herein. This guide will serve to remind/refresh the technician of their training and hands on experience. Some of the procedures described here will not make sense to someone without initial technical training.

The technician is responsible for the following procedures.

### 3.41 CPU Testing

Testing the central processing unit (CPU) can be lengthy and involved. Attention must be paid to many details, including the management of diagnostic time. The technician must be aware of time spent on a unit to keep focus on systems that may be repaired most easily. Of course, safety is always of main concern and caution must be exercised when working on any computer equipment. In general, a technician should spend a maximum of 30 minutes per system on these tasks. After a certain point, there will be more labor put into a system than can be recouped by its resale.

Testing includes three steps:

- Step 1: Boot Test
- Step 2: Data Destruction & Operating System Reinstall
- Step 3: Minimum Specification Check & Hardware Reinstall

If the technician determines the CPU is not functional or repair will be too time consuming, the CPU should be disassembled, saving usable parts to inventory, and recycled.

## Step 1 – Boot Test

CPU testing begins with turning on the system and checking its boot sequence. Sometimes a computer will not properly boot up to the desktop. One of the first things to do if the operating system doesn't load properly is to go into the Bios screen (by pressing F8 when prompted during the boot sequence) and reset the Bios and CMOS to their default settings. This will often work to solve the basic boot problem.

If this does not work you might have to open up the computer and first check if everything is connected properly and/or anything is missing. If everything checks OK try using a boot disc start the computer. If you think you know the operating system type, use boot disc for that OS, or if not you can use a DOS boot disc.

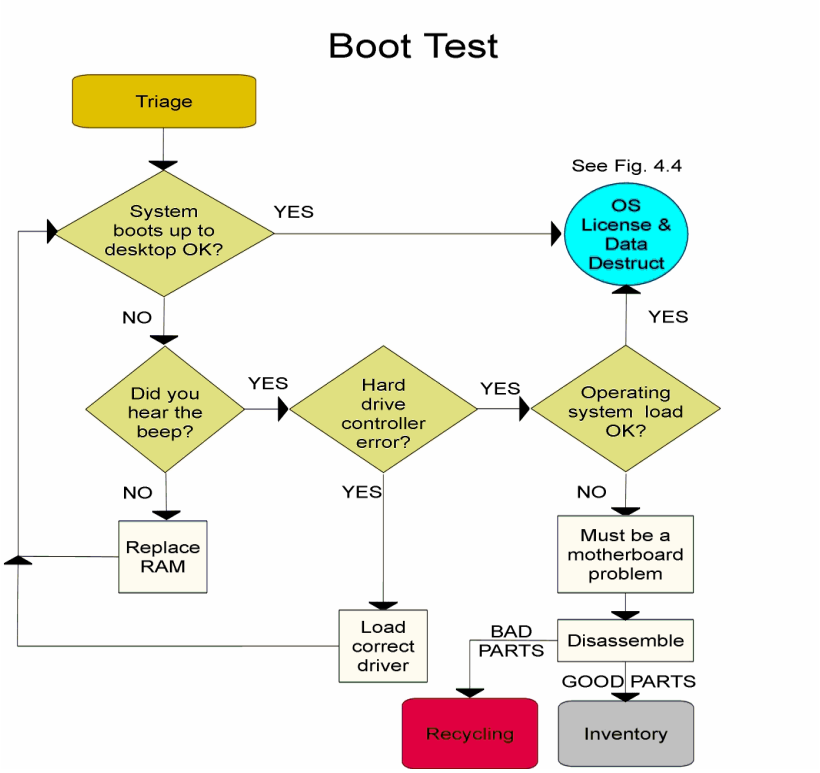



Figure 3.3

a) Listen for a single beep almost immediately after the machine is powered on. This indicates that the *POST test* is starting.
b) If there is no beep, RAM is probably missing or damaged. Install/replace RAM from inventory. Make sure you use the same type of RAM to replace defective RAM; i.e., SIMMS must be used in pairs, DIMMS can be installed singularly. Reboot.

c) You can watch the progression of the *POST test* as it will display the size of RAM in the machine. The total amount of RAM that is active and properly working will display for a second or two until the screen clears.
d) Now open the computer and view the RAM directly to see if the displayed amount and the physical amounts match. Again, make sure you use the same type of RAM to replace defective RAM and reboot.
e) Next, the PC will begin to boot into its operating system. You may receive one of several possible drive controller errors when the OS tries to detect the different hard drives connected the mother board. If so, reboot with a DOS boot disk and load correct drivers for the problem hard drive.
f) If the boot sequence beeps properly, indicates no driver errors, yet still does not bring up the desktop there is probably a serious motherboard problem. Disassemble the CPU box, saving any good parts to inventory, and recycle the rest of the CPU.

## Step 2 - Data Destruction & Operating System Reinstall

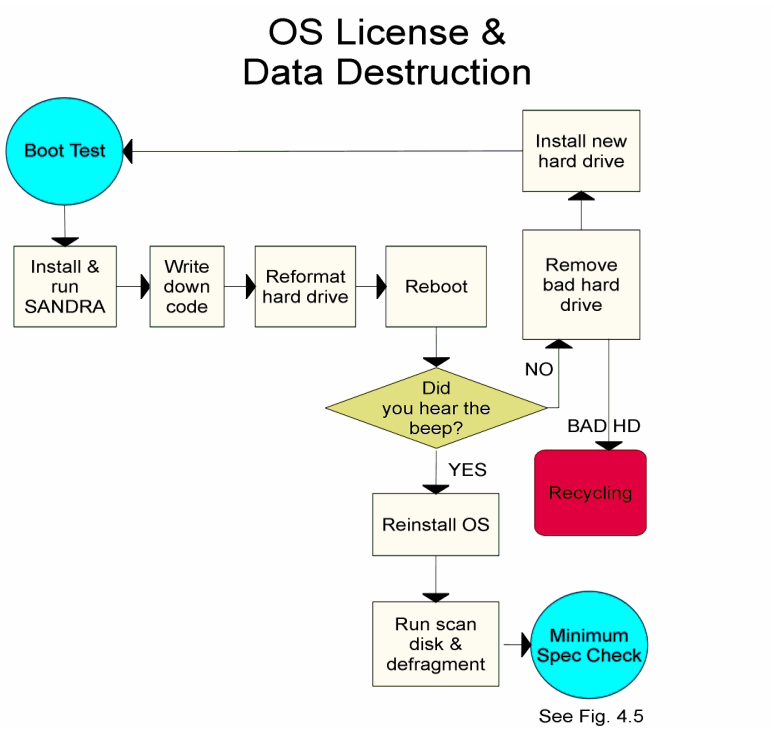



Figure 3.4

For privacy and security reasons, it is program policy to reformat every system hard drive in order to completely erase any pre-existing files and data.

All operating systems need a license to run. Since reformatting the system drive removes license information along with all other files, the information must be retrieved first before a reformat occurs.

SANDRA is software used for obtaining licensing data from a Windows operating system. It can be downloaded at [www.sisoftware.demon.co.uk](www.sisoftware.demon.co.uk).

After retrieving license information, the hard drive can then be reformatted and the original OS reinstalled using the same retrieved license number.

Do the following to destroy drive data and restore the licensed OS

1) Install SANDRA application according to instructions at the download site. Run SANDRA to get a product key code and then write it down. If there is no code (this would be very rare) then swap out the drive and repeat SANDRA code extraction.
2) Reformat the hard drive and reinstall exactly the same OS based on extracted key code.
3) After OS reinstall, run *Scandisk.exe* under Start, Run. Then run the *Disk Defragmenter* under Start, Programs, Accessories, System Tools.

## Step 3 - Minimum Specification Check & Hardware Reinstall

In order to meet minimum customer needs, every retail system must meet the following minimum specifications:

| | |
|---|---|
| System hard drive: | 1 GB |
| RAM: | 32 MB |
| CDROM: | Any speed. |
| Modem: | 26 kbps |
| Monitor: | >=14" color SVGA |

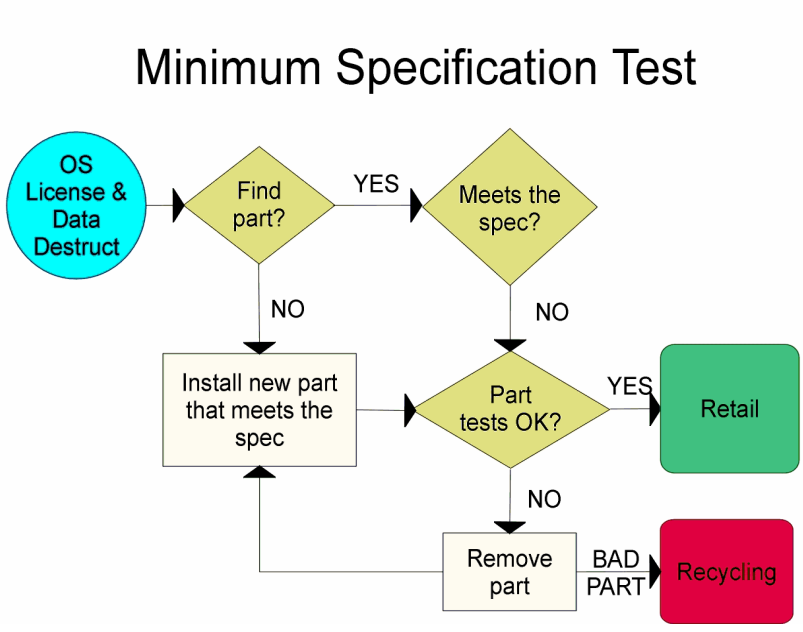


Figure 3.5

The technician proceeds as follows:

a) Look for each part of the system specification.
b) If the part exists, check to see if it meets the minimum specification. Test the part to be sure it works.
c) If it fails to meet the minimum spec, remove it, take one from inventory that meets the spec and install it.
d) If the part is missing, take one from inventory that meets the spec and install it.
e) Test any replacement parts before continuing.
f) After the system meets all specifications, it is ready for retail.

## 4.42 Monitor Testing

Plug the monitor into the test PC system. Boot the machine. Use the monitor controls or to properly center and resize the desktop. If it displays the workspace of the operating system properly then it probably is a good working monitor. If any of the resolution/size controls are **NOT** working properly target the monitor for recycling and palletize it.

## 3.43 Large Peripheral Testing

Printer

- Connect to the test computer system with cables, run *Add/Remove Hardware* from the Windows Control Panel and see if you have proper drivers.
- If not, install drivers and turn on printer.
- Try printing a test page.
- If test page does not work check all connections. If proper drivers have been installed run a diagnostic on the printer using the installed printer software.
- If it still won't print, recycle.
- If it prints but the page appearance is smudged, run the printer head cleaning procedure in the manual or help software for the printer is available for instructions on how to do it.

Scanner

- Connect to the test computer system with cables, run *Add/Remove Hardware* from the Windows *Control Panel* and see if you have proper drivers.
- If not, install drivers and turn on scanner.
- Try scanning a test page.
- If test page does not work check all connections. If proper drivers have been installed run a diagnostic on the printer using the installed printer software.

- If it still won't scan properly, recycle.

Large peripheral testing on the workbench.

## 3.44 Small Peripheral Testing

### Keyboard

- Check to see if cable pins are in good shape.
- If they're OK, plug it in. Recycle if not.
- Select *Run…* from the Windows *Start* menu, type notepad.exe and hit OK
- Type every letter on the keyboard, including numbers, and other special characters including the space bar, arrow keys, etc.
- Use the *Shift key* and repeat.
- Use the *Caps Lock* and repeat.

**Mouse**

- Check to see if cable pins are in good shape.
- If they're OK, plug it in. Recycle if not.
- Check for basic cursor control, up & down, left to right, etc.
- Check for smooth motion. If motion is jumpy, remove and clean the track ball and track ball contacts/rollers.
- Run *Mouse* from the Windows *Control Panel*.

### 3.45 Television Testing

To test TV to see if it is sellable:

a. Set TV on workbench.
b. Connect "rabbit ears" to the TV using an antenna adapter if necessary.
c. Plug TV into AC outlet and turn it on.
d. If it black and white, recycle it.
e. Set the tuner (channel changer) to a low frequency channel, such as ch. 2-13
f. If any of these channels receive a good signal, then the tuner is probably in working order. If not, recycle the television.
g. After the tuner has been established as working, pay attention to the CRT (screen). Are there any irregularities on the CRT? (ie. A dominant color that can not be adjusted – Any multi-colored areas, or "rainbow" effect located anywhere on the CRT)
h. If these irregularities cannot be adjusted so they can be corrected – place the TV on a pallet with other recyclable/bad TV's

## 3.5 Inventory

Inventory is a collection of individual parts sorted by kind and stored for possible use in future systems. It also consists of unsold systems waiting for retail space to become available.

When a sellable system is put into inventory, it is assigned a tracking number in expectation of its future sale.

When an incoming donated part is determined to be in working condition, the value INV is recorded in the Tracking column of the *Data Record Sheet* before the part is put into inventory. No tracking number is assigned, and a complete inventory is only taken every 3 months. Parts obtained from disassembly are added to inventory without record.

Higher volumes than were experienced in this project would probably require a unique inventory ID to be used in a strict inventory tracking system. Without high volumes, an inventory tracking system would be inefficient at such a small scale.

## 3.6 Preparation for Resale

All equipment must be cleaned before sale. The sorter can do this, but the technician may need to if the sorter is unable or there is no sorter position.

- While still back in the processing room, before any items are put out on the sales floor, all items for sale should be thoroughly cleaned. Nobody wants to buy anything that has finger marks and handprints or dirt smudges on it. A little elbow grease may be needed here, but the end results will be well worth the effort.
- Take care not to get cleaning fluid running down into the cooling vents on the sides/back/top of monitors. Do not spray the cleaning fluid onto the item and wipe. When employing cleaning fluid you should spray the cleaner onto a rag or paper towel first, then rub the surface of the device.
- Be sure not to soak the rag/paper towel. Only a small amount of cleaning fluid is needed to be effective. The cleaning fluid is from a concentrate and will cut through most dirt jobs or grease with only a short but sustained effort.
- If you are using rags they will become unusable at a certain point because they will become too soaked or too dirty. When this becomes the case you can rinse them out under warm water, then hang them to dry and get a dry rag. If you're using paper towels then make sure the dirtied ones find their way into a trash can somewhere. This will go a long way to helping keep the work area clean.

Further retail preparation is described in Chapter 4.

# 4.0 Recycling

The National Safety Council has projected that, by the year 2005, PCs will be retired at a rate of more than 63 million a year. Toxic materials like lead, mercury and arsenic can leak into groundwater from electronics dumped in landfills, or pollute the air when incinerated with other waste. Improper disposal of electronics is now a violation of Florida's hazardous waste regulations.

What cannot be resold must be recycled. Triage and technical choices mean that a large proportion of donated equipment must be disposed of, and done so properly.

A recycling vendor must be selected to take unsold equipment away to be further de-manufactured. Pallets must be prepared carefully in order to meet specifications of the recycling vendor when they come to pick them up.

The recycling space must be large enough for at least a dozen pallets and the pallets clearly labeled with unique numbers that will increase over time. In this program, we used a number and letter combination: 1A, 1B, 1C, … ,1Z, 2A, 2B, and so on. This accounting system allows for large volumes over time without repetition. Simpler accounting systems were considered, including simple numeric: 1,2,3, and so on.

Full pallets in the recycling area to the rear of the processing facility.

## 4.1 Documents

- Pallet Sheet
- Recycling Work Order / Receipt
- Recycling Invoice
- Vendor Certificate of Destruction

## 4.2 Palletizing Equipment

Sorting is necessary for safe stacking of equipment on pallets. Other temporary storage methods, like large bins or 'dumpsters', may not need sorting. Ask your recycling vendor to be sure.

In preparing equipment for recycling they must be divided into the following categories and placed on separate pallets:

- CPUs
- Monitors/TVs
- Large peripherals like printers, scanners, faxes, etc.
- Small peripherals like keyboards, mice and small component parts.

Any faulty *component parts* that have been removed from a system should also be divided by type and put into separate boxes before palletizing. Sorting is necessary only when the recycling vendor requests it.

- Hard drives
- Floppy drives/CDROM drives
- Motherboards, Accessory cards, Memory chips / Processor chips
- Any other miscellaneous parts should be grouped together for easier de-manufacturing.

Place the item to be recycled on the appropriate pallet in the recycling work area. You will want record what you are sending by category because your recycling vendor will be charging by the item type, count, weigh, etc., so it is good to know exactly what you sent. (See sample *Recycling Invoice* attached.)

When a piece of equipment is added to a pallet, the action is recorded in the *Pallet Sheet* for that pallet. The Tracking Number, Data Record Sheet Date, Category, and Brand, Description and Donation Source are entered into the electronic version of the *Pallet Sheet* and also into a hand written sheet created for each pallet. Double entry helps to find and correct mistakes that may occur in the process.

### Pallet Stacking Instructions

Pallets are stacked up to 5 feet high.

CPU stacking procedure:

1. Stack on sides if possible, upright if necessary for a proper fit.
2. Insert cardboard layer every third CPU layer (optional).

Monitors & Television stacking procedure:

1. Stack with screen face down.
2. Alternate screen face up and screen face down if necessary to fit on the pallet.
3. Insert cardboard between each layer.

Large peripheral stacking procedure:

Note: These items are the most difficult to stack because they will come in many types, sizes and shapes. Great care must be exercised in stacking these items.

1. Place like-sized and shaped items together.
2. Place as closely and solidly together as possible to avoid shifting during shipping.
3. Insert cardboard layer every 2 feet if possible.

Small peripheral stacking procedure:

These items are not placed directly onto pallets, but into labeled boxes in the recycling work area. For example, bad keyboards all go in a box labeled 'Keyboards', bad mice in a box labeled 'Mice', etc. Since the boxes have no pallet number, no pallet number is indicated when entering the small peripheral in the Data Record Sheet Tracking column. The recycling vendor collects these items separate from palletized items.

Apply stretch wrap to every pallet when the pallet is half full and again when it is full. Pull some plastic from the spool and press or tape on a bottom corner of the pallet. Stretch wrap is added by circling the pallet as the plastic is pulled off the spool. Keep constant tension on the wrap as you pull so as to better secure the stack.

## 4.3 Vendor Pickup

When the number of filled pallets begins to fill available space the contracted recycling firm needs to be notified and a date set for pallet collection. The lead technician is responsible for attending the collection. On that day, after loading the pallets, the truck driver should give a *Recycling Work Order* to the lead technician. The *Pallet Sheet* created since the last pickup are gathered together, stapled to the *Recycling Receipt* and filed. A *Recycling Invoice* and *Certificate of Destruction* should follow within two weeks, with copies of each filed with the matching *Recycling Work Order*.

# 5.0 Retail

The economic success of the program depends on the resale of computers and televisions. The retail part of the program needs the attention and support of the store manager to ensure that customers see a clean and orderly retail display, and that they get their any questions answered promptly and simply.

Some of the technician's time may be spent answering questions and helping customers choose a system or peripheral that best meets their needs.

## 5.1 Documents

Pricing Guide
Retail FAQ
Retail Signs:

- *System Sign Example*
- *LP Sign Example*
- *TV Sign Example*

## 5.2 Displays

There should be at least two retail staff persons trained and responsible for maintaining the television and computer displays.

### Computer Display

In this project, the computer retail display was constructed and located near the front of the store. The project team installed a long counter against a store wall. It is long enough to display up to 6 systems (Fig. 1 following page).

There is a shelf to the right for printers and other large peripherals. There is a separate rack for software and books (Fig. 2).

Fig. 1

Fig. 2

Computer systems, peripherals, books and software on display.

- As much as possible, try to keep systems together. If a system came in the door with a good printer, display and sell the printer with the system that it came in with.
- Make enough room made for each system so that the shelf does not look crowded. The space needed can vary depending on printers, speakers and other extra equipment a system might be displayed with.
- Place a large sign visible indicating there are computers are for sale.
- Hang on the wall above the display a sign explaining that all equipment is tested, and done so by trained technicians.
- *Retail FAQ* sheets should be available at the display. It should have a list of common questions and answers for potential customers. This should reduce the amount of time a technician spends answering questions.
- Each system for sale should have a *System Retail Sign* made for it and posted nearby on display.
- Each large peripheral for sale should have a *LP Retail Sign* made for it and posted nearby on display.
- Computers should be turned on and running with the desktop showing.
- Be sure that a screen saver program is active to prevent monitor burn.

### Television Display

In this project, the television retail display was located near the rear of the store (Fig 3).

A video tape player used to feed a picture signal to the televisions. It was in a back room near the display, out of site.

Fig. 3

Televisions on display.

- Keep like-sized TVs displayed together: small near small, large near large, etc.
- There should be a large sign visible indicating there are televisions for sale.
- Each system should have a retail sign made for it and posted near on display.
- In our program, we would sometimes display monitors for sale when there were not enough TVs to fill the space.

## 5.3 Pricing

Use the *Pricing Guide* to calculate a sale price for a CPU system or large peripheral. Create the pricing guide by researching current market prices for individual parts. Look on the internet, call local electronics stores, ask the store manager, etc. The store manager makes the final decision on pricing.

Keep prices updated based on changing market conditions and local seasonal retail patterns.

## 5.4 Setup

Immediately after recording the incoming system or part in the *Data Record Sheet*, and before moving system to the retail display inventory, the technician writes a date code on back or bottom of item with indelible marker. The format should be MMDDYYA. For instance, the first item recorded on May 19th, 2002 would be marked as 051902A, the second as 051902B, the third as 051902C, and so on.

CPU Systems, large peripherals and TVs get a retail sign.

Once items are put on the showroom floor, ensure that all relevant data and materials remain with the equipment to assist customers with their purchase.

Small peripherals and software books get a price tag with a unique store tag color to help track these items at the register.

A technician should be responsible for the set up of each CPU system or large peripheral at the retail display.

Televisions are setup by retail staff assigned to the TV retail display.

## 5.5 Purchase

At the time of purchase:

- The retail staff removes the retail sign comes off the display.
- The date of sale is recorded on the sign.
- Retail staff returns the sign to the processing file drawer, where it is matched with and stapled to its original mate in the DISPLAY folder before filing it in the SOLD folder.

# 6.0 Safety Equipment and Precautions

The health of electronics recycling workers is threatened when there are not sufficient safeguards in the work place. All necessary precautions are taken to protect workers in the project. All recycled materials are sent to United States facilities where laws are in place to protect worker safety.

## 6.1 Safety Tools

Each worker should have available to them one of each of the following safety tools:

a) *Protective eyewear* – they are to be used when a worker is blowing or vacuuming dust from inside a computer case. You must use the kind with side shields.

b) *Ground wrist strap* – should always be worn when a worker is moving about the inside of a computer case and at no other time.

c) *Back support belt* – should be worn by any worker whom is loading/unloading computer equipment from Goodwill's large plastic bins.

## 6.2 MSDS – Material Safety Data Sheet

At this time the only known hazardous materials that will be used during the Electronics Recycling Project are Windex (or other glass cleaner), used to clean plastic cases of PCs and printers, keyboards and mice, power supplies (inside the PCs themselves) and the High Voltage circuitry of monitors and televisions.

MSDS sheets for these items will comprise the bulk of the *SAFETY BOOK* (see attached). Other hazardous materials can be added later as needed.

## 6.3 Hazardous Materials Handling

Known hazardous materials & conditions consist of the following:

a) *Monitors/TVs* – televisions and computer monitors contain circuitry known as the HIGH VOLTAGE circuit and can hold an extremely large electrical charge for a long period of time. This stored electrical charge can be as high as 6000 volts. Therefore, special handling practices **MUST** be observed in order to ensure worker safety. Where a worker would normally be found using a grounding wrist strap while working on a computer, work performed on TVs and monitors should be done without the use of the grounding strap. Workers should also try to use their right hands when entering the internal

parts of a monitor/TV. This is to avoid any electrical discharge from going through the cardiac area in the event of an accidental discharge.

b) *Power Supplies* – power supplies have a few large capacitors in them that can hold a significant amount of energy (like a battery) that can be present even after a PC is shut down and unplugged from its AC source. Because of this ability to hold an electrical charge for a period of time it poses a respectable electric shock threat. If any workers are unsure of handling procedures for power supplies they should contact the Technical Consultant onsite or the Assistant Computer Technician for assistance.

c) *Glass Cleaner* – May contain irritating or hazardous materials. Please check the label and follow all instructions and warnings given by the manufacturer.

## 6.4 Fire Extinguishers

Class C fire extinguishers should be located at either end of the electronics work area, near where computer devices will be plugged into AC outlets. An additional extinguisher should be located out in the warehouse area where computer devices will be stored. An appropriate experienced official, such as fire department personnel should provide instructions on usage.

# Certificate of Destruction

This certificate is issued on this
23rd of day August, 2002

**To**

**Resource Management Group**

SEER hereby certifies that the electronic equipment picked up from the above location has been demanufactured, rendered unusable for it's intended purpose and recycled in accordance with all applicable Federal, State, County regulations on the date above.

**EPA ID# FLR000035865**

**Secure Environmental Electronics Recycling, Inc.**

d/b/a SEER

April 11, 2002

Charlotte County Government
Attn: Information Technology Services
18500 Murdock Circle, Suite 131
Port Charlotte, FL 33948-1094

Subject: Certificate of Data Destruction

Dear Information Technology Services:

This letter certifies that Goodwill Industries of Southwest Florida under the supervision of Resource Management Group, Inc. has collected, processed, stored, and/or transferred all electronic equipment collected from Charlotte County in performance of Purchase Order BOARD2002001395 in accordance with all applicable Federal, State, and County regulations.

Items were collected on January 30, 2002 and March 6, 2002, and have been demanufactured, rendered unusable for their intended purpose and recycled by Secure Environmental Electronics Recycling, Inc. or refurbished for reuse and sold (or inventoried for sale) as functional equipment by Goodwill Industries of Southwest Florida.

Sincerely,

Jesse White
President

Cc: Barbara Kula, Charlotte County, Department of Environmental Services
Tammy Warr, Store Manager, Englewood, Goodwill Industries of Southwest Florida

**Consumer Survey**

1. How did you hear about this electronics collection event?

☐ TV Ad ☐ Radio ☐ Flyer
☐ Newspaper Ad ☐ Friend/word of mouth ☐ Other _____

2. Why did you come here today to recycle your electronic product(s)? (Choose up to two)

☐ I had no other place to take this product
☐ This was a convenient way to get rid of my old electronics
☐ Other (please specify): _____

3. How far did you travel today to recycle your electronics (give your best estimate)? _____ miles

4. What items did you bring in today?

| Item | How many? | Product Brand | How old is the item? (in years) | Is it working? | Is it a previously used or second hand item? |
|---|---|---|---|---|---|
| TV | | | | Y N | Y N |
| Computer (CPU) | | | | Y N | Y N |
| Computer Monitor | | | | Y N | Y N |
| Computer Peripheral:<br>Mouse<br>Keyboard<br>Printer<br>Scanner | | | | <br>Y N<br>Y N<br>Y N<br>Y N | <br>Y N<br>Y N<br>Y N<br>Y N |
| Other: _____ | | | | Y N | Y N |
| Other: _____ | | | | Y N | Y N |

5. How many computers and TVs do you have at home? _____

6. Who do you think should pay for the safe recycling and disposal of these electronic products? (Check no more than 2)

☐ Customer/user ☐ Government
☐ Retail store ☐ Other (please specify): _____
☐ Electronics manufacturer

7. Who do you think should operate the program for safe recycling and disposal of electronics? (Check no more than 2)

☐ Retail store ☐ Charity
☐ Electronics manufacturer ☐ Other (please specify): _____
☐ Government

8. If you had to pay to recycle your electronics, when would you prefer to pay?

☐ When I purchase the item
☐ When I recycle the item
☐ Other (please specify): _____

9. If you had to pay to recycle your electronics, what is the most you would be willing to pay? $_____

10. The electronics you brought in today were used by a

☐ Residence ☐ Government
☐ Business ☐ Institution

**Thank you for participating in today's electronics collection event.**

(To be filled out by collection event host)
Collection event location (city, state): _____ Date: _____
Collection event type (e.g. municipal drop off, retailer): _____ Participant Number _____

TODAY's Date _____ Page _____ of _____

| Logged By | Date In | Donation Source | Category | Brand | Description | Age | Condition | Status | Tracking |
|---|---|---|---|---|---|---|---|---|---|
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prepared by Resource Management Group, Inc.
941-358-7730

Goodwill Industries International, Inc.

# Electronics Donation form

**To be filled out for ALL computer/electronics equipment that is donated to Goodwill**

**Date:**

**Donor's Zip Code:**

**<u>Items being dropped off</u>**

| Item | Age (yrs old) | Manufacturer | Does it work? |
|---|---|---|---|
| **TV** | | | **Y / N** |
| **Monitor** | | | **Y / N** |
| **Computer** | | | **Y / N** |
| **Printer** | | | **Y / N** |
| **Scanner** | | | **Y / N** |
| **Software/Books** | | | **includes documentation & license Y / N** |
| other (specify) | | | |
| | | | |
| | | | |

**Is there anything else we should know about your donation, like any special features (extra ram, faster processor, fancy sound cards, etc.)?**

**Goodwill location: (*circle one*)**

**Punta Gorda Charlotte Harbor Pt. Charlotte Englewood US17/Winn Dixie ADC WalMart ADC**

## Electronics Recycling

*As local resident donating used electronics and computer equipment you need to know what the consequences of disposal are and your responsibility in the recycling process.*

## You need to know:

- Improper disposal of electronics is a violation of Florida's hazardous waste regulations.
- Toxic materials like lead, mercury and arsenic can leak into groundwater from electronics dumped in landfills, or pollute the air when incinerated with other waste.
- The National Safety Council has projected that more than 63 million PCs a year will be retired by 2005.
- Over 80% of donations to Goodwill and other non-profits are **not** saleable. This places a disposal liability on these organizations.
- The health of electronics recycling workers is threatened when there are not sufficient safeguards in the work place. Goodwill Industries of SW Florida sends all recyclable materials to United States facilities where laws are in place to protect worker safety.

## Electronics Recycling and You

*Individuals, businesses and governments have been bringing their worn out computers and TVs to places like Goodwill for a long time. But year after year, Goodwill and similar collection facilities have been incurring the disposal costs of electronic merchandise that it cannot resell - ultimately causing the organization to spend money on hefty disposal fees rather than vital community programs.*

*Our programs are designed to reduce potential environmental hazards and to efficiently reuse items that still work. Because some of the materials donated are saleable, we have been able to offset some disposal fees. However, steadily increasing donations mean these fees are rising. In order to keep recovery and recycling programs economically viable and fairly distribute the costs, we are asking electronics donors to do their part and pitch in a small portion of the cost of disposal fees.*

## Doing Your Part

- Goodwill is offering fee-based safe and secure environmental disposal options including data destruction, resale and recycling of donated electronics.
- Goodwill has now implemented a $5.00 contribution to accompany all monitor and TV donations (in working order or not.) Collection services also available for a fee.
- Everyone pays the same fee, whether you are a household, business or government agency. The fee is minimal compared to the cost of new equipment.
- Your participation helps make low cost technology available to Goodwill customers and helps fund our job training programs.
- Even though you are paying a fee, there still may be tax benefits of your donation, please consult with your accountant to determine the value of your contribution.

## Goodwill Accepts These Items in Working Condition

- Computers
- Monitors
- Televisions
- Terminals
- Keyboards
- Mice
- Video Game Consoles
- Copiers
- Fax Machines
- VCRs
- DVD players
- Video Cameras
- Wireless Devices
- Cellular Phones
- Stereos
- Telephones
- Microwave Ovens

**Working and non-working computer equipment, including monitors, terminals and televisions, are accepted in return for a small fee.**

*For large donations collection call Goodwill at 941-475-9401.*

## Proper Disposal Required

***COMPUTER MONITORS and TVs***
Contain significant amounts of lead.
Older televisions may contain cancer causing PCBs, a known carcinogen.

***PRINTED CIRCUIT BOARDS***
Contain lead, chromium and mercury.

***BATTERIES***
May contain lead, mercury and cadmium.

***SWITCHES & RELAYS***
Can contain hazardous amounts of mercury.

## Charlotte County Goodwill Stores

Englewood
1501 Placida Road
9-6 (7days)
475-9401

Port Charlotte
2340 Tamiami Trail
9-5:30 (6days) 12-5 Sundays
627-9444

Punta Gorda
1826 S. Tamiami Trail
9-5:30 (6days)
575-0770

Charlotte Harbor
4694 Tamiami Trail
9-5:30 (6days) 12-5 Sundays
627-6616

## Alternatives to Disposal

*Reduce*

- Lease equipment, instead of purchase.
- Identify and buy durable products.
- Repair instead of replace.
- Buy upgradeable systems and upgrade when you can.
- Buy 'green' products that minimize problems in the first place.

*Reuse*

- Resell what still works.
- Donate old but working equipment to a school or charity.
- Return your equipment to the dealer or manufacturer.

*Recycle*

- Donate old equipment – working or not – to local centers that have electronics recovery shops in place.
- Pay the small fee to support continued electronics recovery operations.

## Who to contact…

Goodwill
1501 Placida Rd
Englewood, FL 34224
941-475-9401
www.shopgoodwill.com

State Department of Environmental Protection
www.dep.state.fl.us/waste/categories/electronics/
850-488-0300

Resource Management Group, Inc.
200 S. Washington Blvd. Suite 10
Sarasota, FL 34236
941-358-7730
www.recyclesmart.com

***Printed on Recycled Paper***

# Ethical and Legal Disposal of Electronics Household Donors

**April 2002**

Goodwill
Industries of Southwest Florida, Inc.

***Printed on Recycled Paper***

## Electronics Recycling

*As a local source of used electronics and computer equipment you need to know what the consequences of disposal are and your responsibility in the recycling process.*

# You need to know:

- Improper disposal of electronics is a violation of Florida's hazardous waste regulations and may subject you to federal Superfund cleanup liability.
- Toxic materials like lead, mercury and arsenic can leak into groundwater from electronics dumped in landfills, or pollute the air when incinerated with other waste.
- The National Safety Council has projected that more than 63 million PCs a year will be retired by 2005.
- Over 80% of donations to Goodwill and other non-profits are **not** saleable. This places a disposal liability on these organizations.
- The health of electronics recycling workers is threatened when there are not sufficient safeguards in the work place. Goodwill Industries of SW Florida sends all recyclable materials to United States facilities where laws are in place to protect worker safety.

## Electronics Recycling and You

*Individuals, businesses and governments have been bringing their worn out computers and TVs to places like Goodwill for a long time. But year after year, Goodwill and similar collection facilities have been incurring the disposal costs of electronic merchandise that it cannot resell - ultimately causing the organization to spend money on hefty disposal fees rather than vital community programs.*

*Our programs are designed to reduce potential environmental hazards and to efficiently reuse items that still work. Because some of the materials donated are saleable, we have been able to offset some disposal fees. However, steadily increasing donations mean these fees are rising. In order to keep recovery and recycling programs economically viable and fairly distribute the costs, we are asking electronics donors to do their part and pitch in a small portion of the cost of disposal fees.*

# Doing Your Part

- Goodwill is offering fee-based safe and secure environmental disposal options including data destruction, resale and recycling of donated electronics.
- Goodwill has now implemented a $5.00 contribution to accompany all monitor and TV donations (in working order or not.) Collection services also available for a fee.
- Everyone pays the same fee, whether you are a household, business or government agency. The fee is minimal compared to the cost of new equipment.
- Your participation helps make low cost technology available to Goodwill customers and helps fund our job training programs.
- Even though you are paying a fee, there still may be tax benefits of your donation, please consult with your accountant to determine the value of your contribution.

# Goodwill Accepts These Items in Working Condition

- Computers
- Monitors
- Televisions
- Terminals
- Keyboards
- Mice
- Video Game Consoles
- Copiers
- Fax Machines
- VCRs
- DVD players
- Video Cameras
- Wireless Devices
- Cellular Phones
- Stereos
- Telephones
- Microwave Ovens

**Working and non-working computer equipment, including monitors, terminals and televisions, are accepted in return for a small fee.**

*For large donations collection call Goodwill at 941-475-9401.*

# Proper Disposal Required

*Florida statutes require that businesses, schools, non-profit organizations, and government entities not discard electronic equipment that contains hazardous materials. Used electronics must be recycled or properly disposed of as hazardous waste.*

## COMPUTER MONITORS and TVs

Contain significant amounts of lead. Older televisions may contain cancer causing PCBs, a known carcinogen.

## PRINTED CIRCUIT BOARDS

Contain lead, chromium and mercury.

## BATTERIES

May contain lead, mercury and cadmium.

## SWITCHES & RELAYS

Can contain hazardous amounts of mercury.

**When improperly released into the environment, these toxins disperse into groundwater and threaten the entire community.**

# Alternatives to Disposal

*Reduce*

- Lease equipment, instead of purchase.
- Identify and buy durable products.
- Repair instead of replace.
- Buy upgradeable systems and upgrade when you can.
- Buy 'green' products that minimize problems in the first place.

*Reuse*

- Resell what still works.
- Donate old but working equipment to a school or charity.
- Return your equipment to the dealer or manufacturer.

*Recycle*

- Donate old equipment – working or not – to local centers that have electronics recovery shops in place.
- Pay the small fee to support continued electronics recovery operations.

## Who to contact...

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Englewood, FL 34224
941-475-9401
www.shopgoodwill.com

State Department of Environmental Protection
www.dep.state.fl.us/waste/categories/electronics/
850-488-0300

Resource Management Group, Inc.
200 S. Washington Blvd. Suite 10
Sarasota, FL 34236
941-358-7730
www.recyclesmart.com

Printed on Recycled Paper

# Ethical and Legal Disposal of Electronics

## Businesses and Institutions

**April 2002**

Goodwill
Industries of Southwest Florida, Inc.

***Printed on Recycled Paper***

# Key to Data Record Sheet

## Logged by

Initials of who entered the data into the sheet.

## Date In

Date that the item was brought in to the processing facility regardless of whether its resold or recycled.

## Donation source

Business, business pick up = we or GW picked it up, give it a unique code, eg. CC = Charlotte County);
Private = PR (if donation not from Englewood store, name the store)
Educational = ED

## Category

Each item should fall into 1 category:

C = CPU's
L = laptops
LP = large peripherals
MT = monitor/terminal
SP = small peripherals
MF = Microfiche
ML = Microfilm
TVL = TV screen > 19"
TVS = TV screen < 19"

## Brand

Name of manufacturer; i.e., Dell, Sony, HP, etc. If a generic built PC enter "GN".

AC Acer
APC
AE Advanced Electronics
AL Atlas
AN Action
AP Apple
AST
AT ATT
CA Canon
CM Compudyne
CO Commodor
CQ Compaq
CN Citizen
CR Curry
CT CTX
DA Daewoo
DE dell
DMI
ELL
EP Epson
GE GE
GMS
GN Generic
GR Gravis
GS Goldstar
GY gateway
HI Hitachi
HP HP
IBM
KN Kenisko
LE Leading Edge
LT Labtech
LX Lexmark
MAC
MB Mitsubishi
MC Micron
MG Magnavox
MM Memorex
MN Manhattan
MS Microsoft
MT Mitsumi
MV Markvision
NEC
NW New World
OK Okidata
PB packard bell
PH Phiko
PS Panasonic
QS Quick Shot
RV Reveal
RCA RCA
SDS
SA Sanyo
SH Sharp
SM Samtron
SS Samsung
SC Smith Corona
SY Sony
ST Star
SL Sylvania
SD Sysdyne
TA Taxan
TC Team Concepts
TO TOSHIBA
TL Triple Life
TT TTX
TY Tandy
US Unisys
USR
WTV WebTV
ZE Zenith

## Description

If CPU or Laptop then indicate processor type and speed:

80xx
286
386
486
PI ###
PII ###
PIII ###
MAC

If large peripheral:

| | |
|---|---|
| DMP | Dot matrix printer |
| IJ | Ink jet printer |
| LJ | Laser jet printer |
| PT | Generic printer |
| FAX | Fax |
| SC | Scanner |
| CP | Copier |
| UPS | Uninterrupted power supply |
| OT | Other |

If small peripheral:

| | |
|---|---|
| KB | Keyboard |
| MD | Modem |
| MS | Mouse |
| MS3 | 3 Button mouse |
| OT | Other |

If monitor or TV, indicate inches of Screen
eg. 14”, 15”, 17”, 19” (OK to enter just number – inches understood)

## Age

If TV or monitor, indicate age in years. Else, indicate NA.

## Condition

S = sale 'as is'
RR = repair & resell
P = parts
R = recycle

## Status

W = working
NW = non-working

## Tracking

If the CPU, LP or TV is to be sent to retail space, give it a tracking # and write it on the item (w/ indelible ink) in the form DDMMYYA, DDMMYYB, DDMMYYC, and so on.

If item or component was sent to recycling, indicate pallet #. Small peripherals are not palletized get no pallet number.

Goodwill
Industries of Southwest Florida, Inc.

# Electronics Recycling and You

*Individuals, businesses and governments have been bringing their worn out computers and TVs to places like Goodwill for a long time. But year after year, Goodwill and similar collection facilities have been incurring the disposal costs of electronic merchandise that it cannot resell - ultimately causing the organization to spend money on hefty disposal fees rather than vital community programs.*

*Our programs are designed to reduce potential environmental hazards and to efficiently reuse items that still work. Because some of the materials donated are saleable, we have been able to offset some disposal fees. However, steadily increasing donations mean that these fees are rising. In order to keep recovery and recycling programs economically viable and fairly distribute the costs, we are asking electronics donors to do their part and pitch in a small portion of the cost of disposal fees.*

## *Doing Our Part*

- *Goodwill is offering safe and secure environmental disposal options including data destruction, reuse and recycling of donated electronics.*

## *Doing Your Part*

- *Goodwill has now implemented a $5.00 contribution to accompany each monitor and TV donation (in working order or not.) Collection services are also available for a fee.*
- *Everyone pays the same fee, whether you are a household, business or government agency. The fee is minimal compared to the cost of new equipment.*
- *Your participation helps make low cost technology available to Goodwill customers and helps fund the job training program for our technical staff.*
- *Even though you are paying a fee, there still may be tax benefits of your donation, please consult with your accountant to determine the value of your contribution.*

*Please consider helping Goodwill by contributing the small fee. Do it for yourself, your family and your community. Just cut or tear off the bottom of this flyer and mail it in with your contribution payable to Goodwill.*

*For more information about electronics recycling problems and answers, ask for reading materials at your Goodwill register.*

cut here cut here

- - - -

| PALLET TRACKING SPREADSHEET | | | | | |
|---|---|---|---|---|---|
| **Tracking** | **Datasheet Date** | **Category** | **Brand** | **Description** | **Donation source** |
| | | | | | |
| 1O | 05/30/02 | TVS | PS | 9 | PR |
| 1O | 05/16/02 | TVL | SEARS | 21 | PR |
| 1O | 05/16/02 | TVS | EMERSON | 15 | PR |
| 1O | 05/16/02 | TVS | PS | 14 | PR |
| 1O | 05/21/02 | TVS | MGA | 14 | PR |
| 1O | 05/23/02 | TVS | AOC | 13 | PR |
| 1O | 05/28/02 | TVL | HO | 22 | PR |
| 1O | 05/30/02 | TVS | AUDIOVOX | 8 | PR |
| 1O | 05/31/02 | TVL | NEC | 27 | PR |
| 1O | 06/06/02 | TVS | GS | 9 | PR |
| 1O | 06/06/02 | TVL | QUASAR | 19 | PR |
| | | | | | |
| 1P | 05/21/02 | LP | BROTHER | FAX | PR |
| 1P | 05/23/02 | LP | BROTHER | FAX | PR |
| 1P | 05/30/02 | LP | LANIER | FAX | PR |
| 1P | 05/30/02 | LP | XEROX | COPIER | PR |
| 1P | 06/04/02 | LP | CA | IJ | PR |
| 1P | 06/06/02 | LP | HP | IJ | PR |
| 1P | 06/14/02 | LP | EP | DMP | PR |
| 1P | 06/14/02 | LP | APEX | DMP | PR |
| 1P | 06/21/02 | LP | FORTIS | DMP | PR |
| 1P | 06/21/02 | LP | PS | LJ | PR |
| 1P | 06/27/02 | LP | CA | IJ | PR |
| 1P | 06/27/02 | LP | EP | IJ | PR |
| 1P | 06/27/02 | LP | HP | IJ | PR |
| 1P | 06/27/02 | LP | HP | IJ | PR |
| 1P | 07/04/02 | LP | AP | IJ | PR |
| 1P | 07/06/02 | LP | CA | IJ | PR |
| | | | | | |
| 1Q | 05/28/02 | MT | PB | 14 | PR |
| 1Q | 06/21/02 | MT | PRINCETON | 10 | PR |
| 1Q | 06/28/02 | MT | PROVIEW | 15 | PR |
| 1R | 07/04/02 | MT | BROTHER | 10 | PR |
| 1R | 07/04/02 | MT | SL | 13 | PR |
| 1P | 05/16/02 | MT | GN | 14 | PR |
| | | | | | |
| 1R | 06/25/02 | TVS | KMC | 8 | PR |
| 1R | 06/25/02 | TVS | MG | 9 | PR |
| 1R | 06/27/02 | TVS | SY | 8 | PR |
| 1R | 06/27/02 | TVL | MB | 21 | PR |
| 1R | 06/27/02 | TVL | LINYTRON | 22 | PR |

| | | | | | |
|---|---|---|---|---|---|
| 1R | 06/28/02 | TVL | GE | 22 | PR |
| 1R | 07/04/02 | TVS | GS | 5 | PR |
| | | | | | |
| 1R | 05/23/02 | C | PB | 486 | PR |
| 1S | 06/04/02 | C | TO | 486 LAPTOP | PR |
| 1S | 06/04/02 | C | VTECH | LEARNING LAPTOP | PR |
| 1S | 06/07/02 | C | PB | 486 | PR |
| 1S | 06/24/02 | C | GN | P133 | PR |
| 1S | 06/25/02 | C | VTECH | LEARNING LAPTOP | PR |
| 1S | 06/28/02 | LP | VTECH | LEARNING LAPTOP | PR |
| 1S | 07/06/02 | C | CQ | 486 | PR |
| 1S | 07/06/02 | C | DELTA GOLD | SERVER | PR |
| | | | | | |
| 1U | 07/05/02 | TVS | GE | 14 | PR |
| 1U | 07/05/02 | TVS | SR2000 | 14 | PR |
| 1U | 07/05/02 | TVS | BENTLY | 4 | PR |
| | | | | | |
| INV | 06/28/02 | MT | MAGITRONIC | 14 | PR |
| INV | 07/02/02 | SP | PC | KB | PR |
| INV | 07/05/02 | SP | PB | MS | PR |

# PRICING GUIDE for Electronics Recycling Project (updated June 2002)

Computer Systems:

$1 per megahertz of processor speed (if amount doesn't end in a 5 or 0 then round to nearest 5 dollar mark; ex. P133 would go for $135.00)
$20 for every 32MB of RAM
$20 for every Gigabyte of hard drive space
14 – 15" monitors = no extra charge
add $15 if 17" monitor
add $30 if 19" monitor
add $45 if larger than 19"
If you install a 56K modem add $10

Monitors (sold separate from system):

$20 for a 14 or 15"monitor
$35 for a 17"
$50 for a 19"
$65 for monitors larger than 19"

TVs (all TVs must be color and have digital tuners):

13" > 10yrs old = $10
13" < 10yrs old = $15
19" > 10yrs old = $30
19" < 10yrs old = $35
25" > 10yrs old = $40
25" < 10yrs old = $45
27" > 10yrs old = $50
27" < 10yrs old = $55
TVs larger than 27" add $5 per inch

Printers:

Small Inkjet printers (ex. - canon BJC240 or a Compaq IJ300) = $20
Large inkjet printers (ex. - HP 800 series) = $35
Older Laser printers (ex. - HP LJIIP) = $35
Newer Laser printers (ex. - Epson Action Laser 1500) = $50

Peripherals:

Fax machines (thermal print) = $25
Fax machines (plain paper print) = $35
All copy machines = $35
Scanners (42 bit) = $25
Scanners (anything less than 42 bit) = $15

# Invoice

SEER - Secure Environmental
Electronics Recycling, Inc.
6902 7th Avenue East
Tampa, FL 33619
USA

Voice: (813) 621-8870
Fax: (813) 621-5457

Invoice Number: 7118

Invoice Date: Jul 26, 2002



Duplicate

Sold To:
Resource Management Group
ATTN: David Wilkens
200 S. Washington Blvd. Ste 10
Sarasota, FL 34236

Ship to:
Picked up at:
Goodwill Industries
1501 Placeda Road
Englewood, FL 34224

| Customer ID | Customer PO | Payment Terms | |
|---|---|---|---|
| RESOURCEMANAGEMENT | | Due Upon Receipt | |
| **Sales Rep ID** | **Shipping Method** | **Ship Date** | **Due Date** |
| GOLUB | Courier - 0880 | 7/25/02 | 7/26/02 |

| Quantity | Item | Description | Unit Price | Extension |
|---|---|---|---|---|
| 97.00 | | Monitors | 7.50 | 727.50 |
| 38.00 | | CPU's - No Charge | | |
| 17.00 | | Fax Machines | 2.50 | 42.50 |
| 2.00 | | Scanners | 2.50 | 5.00 |
| 70.00 | | Printers | 2.50 | 175.00 |
| 3.00 | | Copiers | 10.00 | 30.00 |
| 16.00 | | Televisions - 19" or less | 7.50 | 120.00 |
| 15.00 | | Televisions - 20" or greater | 9.50 | 142.50 |
| 47.00 | | Keyboards | 0.50 | 23.50 |
| 283.00 | | UPS - 283 net lbs. | 0.04 | 11.32 |
| 64.00 | | Irony Alum. Drives - 64 net lbs. | 0.07 | -4.48 |
| | | Transportation & Handling | | 325.00 |

| | |
|---|---|
| Subtotal | 1,597.84 |
| Sales Tax | |
| Freight | |
| Total Invoice Amount | 1,597.84 |
| Payment Received | 0.00 |
| **TOTAL** | 1,597.84 |

Check No:

# F & M Bay Electronics
## Secure Environmental Electronic Recycling

6902 7th Avenue East * Tampa, FL 33619

**WORK ORDER #** 0880

Inv. 718

____ **F & M** X **S.E.E.R.**

X **PICK - UP** ____ **DELIVERED**

**Company Name** Goodwill Ind. **Contact** Mike Jessie

**Address** 1911 Phillips **Phone #** 941 [illegible] 130

**City** Sarasota, FL **Fax #** _____

**PACKAGING:** Boxed Palletized Shrink-wrapped

**SITE INFORMATION**

Height Restrictions? _____ Is there a forklift on site? _____

Does Site have a Loading Dock? _____ Is a lift gate required? _____

What floor is equipment on? _____ Is a call needed prior to pick-up? _____

Requested date of pickup: 7/25/02 Shipping & Receiving Hours: _____

Comments: 11 pallets

NJG

Delivered by: _____

Date _____

Picked up By: [signature] Company Truck Other Written by: [signature]

Date 7-25-02 Date 7/24/02

Customer Signature: [signature] Date: 7/25/02

Start: _____

Arrive: 7:35 AM

Finish: 10:00 AM

Phone: (813) 621-8870 * (888) 600-7337 * FAX (813) 621-5457

Copies: White - Office Canary - Driver Pink - Warehouse Goldenrod - Customer

# Frequently Asked Questions about our Computers for Sale

## What can these computers do?

The retail sign for each system will give you information about system speed and memory, as well as details about modem speed, monitor type, operating system and loaded software.

## Can they get you on the internet?

Yes. All our systems have modems for connecting to the internet by a phone line. Modem speed for each system is listed in the sign for each system.

## Will they run the latest software?

Some will, some won't: but all systems have a CDROM drive to install and run your software. The retail sign for each system will give you information needed to determine if they are compatible with the particular software you are interested in.

## Where do they come from?

Our computers are donated by people like you, as well as collected from and local businesses and county government.

## Are they guaranteed?

All electronics equipment is sold 'as is', with no express warranties or guarantee made by Goodwill Industries.

# Pentium 166MHz

## w/ 2GB Hard Drive

# only $185.00

## Compaq Presario

33.4 kbps Modem
8x CDROM
64 MB RAM
15” SVGA Color Monitor
Keyboard and Mouse

Loaded with Windows98,
Acrobat Reader,
and WinZip

* All computer equipment sold ‘as is’, with no express warranties or guarantee made by Goodwill Industries

** See cashier for return policy

DATE RETAILED: _____/_____/_____
DATE SOLD: _____/_____/_____

TN 052302A

# BRAND – Ink Jet Printer

* All electronic equipment sold 'as is', with no express warranties or guarantee made by Goodwill Industries

** See cashier for return policy

DATE RETAILED: _____/_____/_____
DATE SOLD: _____/_____/_____ TN 052302A

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# BRAND - _____” Screen

## ___ w/ Remote (if checked)

## ___ Cable Ready (if checked)

* All electronic equipment sold ‘as is’, with no express warranties or guarantee made by Goodwill Industries

** See cashier for return policy

DATE RETAILED: _____/_____/_____
DATE SOLD: _____/_____/_____ TN 052302A

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# ELECTRICAL SAFETY

## RECOMMENDATIONS

### 1. PREVENTION

**PREVENTION** must be the primary goal of any occupational safety program. However, since contact with electrical energy occurs even in facilities that promote safety, safety programs should provide for an appropriate emergency medical response.

### 2. SAFE WORK PRACTICES

No one who works with electric energy should work alone, and in many instances, a "buddy system" should be established. It may be advisable to have both members of the buddy system trained in CPR, as one cannot predict which one will contact electrical energy.

Every individual who works with or around electrical energy should be familiar with emergency procedures. This should include knowing how to de-energize an electrical system before rescuing or beginning resuscitation on a worker who remains in contact with an electrical energy source.

All workers exposed to electrical hazards should be made aware that even "low" voltage circuits can be fatal, and that prompt emergency medical care can be lifesaving.

### 3. CPR AND ACLS PROCEDURES

**CARDIOPULMONARY RESUSCITATION (CPR)** and first aid should be immediately available at every work site. This capability is necessary to provide prompt (within 4 minutes) care for the victims of cardiac or respiratory arrest, from any cause.

Employers may contact the local office of the American Heart Association, the American Red Cross, or equivalent groups or agencies, to set up a course for employees.

Provisions should be worked out at each work site to provide **ADVANCED CARDIAC LIFE SUPPORT (ACLS)** within 8 minutes (if possible), usually by calling an ambulance staffed by paramedics. Signs on or near phones should give the correct emergency number for the area, and workers should be educated regarding the information to give when the call is made. For large facilities, a prearranged place should be established for company personnel to meet paramedics in an emergency.

Adopoted from a document published by OSHA on the internet, http://www.cdc.gov/niosh/85-104.html?
"Preventing Electrocutions of Workers in Fast Food Restaurants"
**NIOSH ALERT:** December 1984 - DHHS (NIOSH) Publication No. 85-104

# How to Perform ADULT CPR

This document is intended as a supplement to information learned in a complete CPR course instructed by the American Heart Association. It is not to be used as your only guide for CPR and does not replace formal training in CPR. Please use this only as a guideline for the proper steps in CPR, and replace any information below with information deemed more current by your local CPR professional. For more information please contact your local American Heart Association for class information.

1. Make sure the scene is safe for you to help.
2. Make sure you have universal precautions: gloves, pocket mask, etc.
3. Make sure you know how many patients you have.
4. Determine if they are conscious by tapping and shouting "Are you OK?"
5. If no response have someone call 911.
6. Position the patient on their back.
7. Open the airway with a head-tilt chin-lift or jaw-thrust maneuver.
8. LOOK-LISTEN-&-FEELING for breathing. CHECK BREATHING FOR 5-10 SECONDS.
9. If they aren't breathing VENTILATE TWICE.
10. Check for a pulse by palpating (feeling) the carotid artery. CHECK THE PULSE FOR 10 SECONDS.
11. If there is no pulse BEGIN CHEST COMPRESSIONS at a rate of 15 COMPRESSIONS to 2 BREATHS.
12. Recheck the pulse after ONE MINUTE.
13. CONTINUE UNTIL HELP ARRIVES, OR, UNTIL YOU FEEL TOO TIRED TO CONTINUE.

Adopted from various sources on American heart Assn. website and American Red Cross website.